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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,537	04/23/2002	Balasulojini Karunanandaa	16516.130	4151
7590	08/06/2004			
David R Marsh Arnold & Porter 555 12th Street NW Washington, DC 20004			EXAMINER KALLIS, RUSSELL	
			ART UNIT 1638	PAPER NUMBER
DATE MAILED: 08/06/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/030,537

Applicant(s)

KARUNANANDAA ET AL.

Examiner

Russell Kallis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-46 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-21, 25-27, 30-41, drawn to a method of producing a transgenic plant that overexpresses a HES1 protein, the DNA encoding a HES1 protein, and the transformed plant.

Group II, claim(s) 1-21, 28-29, 42, drawn to a method of reducing expression of a HES1 protein in a plant, the DNA encoding a HES1 protein, and the transformed plant.

Group III, claim(s) 22, drawn to an isolated protein comprising SEQ ID NO: 30, 31, 32, or 33.

Group IV, claim(s) 23-24, drawn to an antibody capable of binding to a protein of SEQ ID NO: 30 or 33.

Group V, claim(s) 43, drawn to a method for screening for increased phytosterol levels in a plant.

Group VI, claim(s) 44, drawn to a method for determining a genomic polymorphism in a plant that is predictive for increased phytosterol levels.

Group VII, claim(s) 45, drawn to a method for determining the level or pattern of HES1 expression in a plant cell or tissue comprising hybridizing a marker nucleic acid molecule.

Group VIII, claim(s) 46, drawn to a method for determining the level or pattern of HES1 expression in a plant cell or tissue comprising assaying the concentration of a molecule.

The inventions listed as Groups I-VIII do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The technical feature of a polynucleotide encoding a HES1 protein is taught in the art, Jiang B. *et al.*, in *Yeast*, 1994, vol. 10, pages 341-353; teach a polynucleotide encoding a HES1 protein from yeast (see abstract and figure 1 page 345), and thus there is no special technical feature linking Groups I-VIII.

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Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

The claims are directed to independent and distinct nucleic acid and amino acid sequences. Upon election of either Group I, Applicant is required to elect a single amino acid sequence of SEQ ID NO: 30, 31, 32, 33, or 34 and the corresponding single nucleic acid encoding sequence. Upon election of either Group III, Applicant is required to elect a single amino acid sequence of SEQ ID NO: 30, 31, 32 or 33. Upon election of either Group IV, Applicant is required to elect a single amino acid sequence of SEQ ID NO: 30 or 33. Upon election of any one of Groups II, V-VII or VIII, Applicant is required to elect a single nucleic acid sequence of SEQ ID NO: 1-4, 6-28, or 29. This requirement is not to be construed as a requirement for an election of species, since each of the nucleic acid sequences or amino acid sequences recited in alternative form is not a member of a single structurally and functionally related genus, but rather constitutes an independent and patentably distinct invention. Separate searches and considerations would be required for examination of each of the nucleic acid sequences.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell Kallis whose telephone number is (571) 272-0798. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Russell Kallis Ph.D.
August 2, 2004